

Remarks

The Amendments to the Claims

Claims 1, 34, and 47 have been amended to recite that the mammalian *PMS2* mismatch repair gene in the methods, compositions, and plants is a human mismatch repair and that the truncation mutation is at codon 134. These amendments are supported by originally filed claims 5 and 16, now canceled. Claim 33 has been amended to depend from claim 19 and claim 85 from claim 77.

None of these amendments introduce new matter.

The Rejections of Claims 1, 2, 5, 15, 18-20, 31, 34, 35, 47, 77, 79, and 83 Under 35 U.S.C. § 112, first paragraph

Claims 1, 2, 5, 15, 18-20, 31, 34, 35, 47, 77, 79, and 83 stand rejected under 35 U.S.C. § 112, first paragraph, as insufficiently described and as not enabled. Claims 5, 15, 20, 31, 35, 79, and 83 are canceled. Applicants respectfully traverse the rejections of Claims 1, 2, 18, 19, 34, 47, and 77.

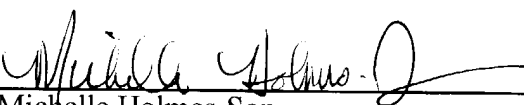
Claims 1, 34, and 47 are amended and are the independent claims of the rejected claim set. Claim 1 is directed to a method for making a hypermutable cell. The method comprises a step of introducing into a plant cell a polynucleotide comprising a dominant negative allele of a human *PMS2* mismatch repair gene. The dominant negative allele comprises a truncation mutation at codon 134. The cell becomes hypermutable. Claim 34 is directed to a homogenous composition of cultured, hypermutable plant cells that comprise a truncation mutation at codon 134 of a human *PMS2* mismatch repair gene. Claim 47 is directed to a hypermutable plant in which at least 50% of the cells comprise a human *PMS2* mismatch repair gene having a truncation mutation at codon 134.

Claims 1, 2, 18, 19, 34, 47, and 77 stand rejected as not adequately described by the specification because "Applicant fails to adequately describe the genus of truncation mutations of a mammalian PMS2 mismatch repair gene that produce a dominant negative allele as broadly claimed." Advisory Action mailed June 8, 2003, page 2, lines 4-5. Claims 1, 2, 18, 19, 34, 47, and 77 are similarly rejected as not enabled because "Applicant has provided limited guidance for a method of making a hypermutable plant cell by introducing into said plant cell a polynucleotide comprising any dominant negative allele of a mismatch repair gene, especially any mammalian PMS2 gene as broadly claimed." Paper 16, page 8, lines 15-18. The claims, as amended, recite a human *PMS2* mismatch repair gene comprising a truncation mutation at codon 134. The Patent Office acknowledges that these methods, compositions and plants are adequately described (see Paper 16, page 6, lines 4-7) and enabled (see Paper 20, page 4, lines 18-21) by the specification.

Applicants respectfully request withdrawal of the written description and enablement rejections and submit that the claims are in condition for allowance.

Respectfully submitted,

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